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IS 8438 (1987): Moulds of cast resin based straight through joints for cables for voltages upto and including 1100 V
[ETD 9: Power Cables]



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Indian Standard

**SPECIFICATION FOR
MOULDS FOR CAST RESIN BASED STRAIGHT
THROUGH JOINTS FOR CABLES FOR VOLTAGES
UP TO AND INCLUDING 1 100 VOLTS**

(First Revision)

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Indian Standard

SPECIFICATION FOR MOULDS FOR CAST RESIN BASED STRAIGHT THROUGH JOINTS FOR CABLES FOR VOLTAGES UP TO AND INCLUDING 1 100 VOLTS

(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards on 7 December 1987, after the draft finalized by the Power Cables Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 This standard was first published in 1977. This revision is being undertaken to take into account the experience gained during implementation of this standard.

0.3 The cast resin based straight through joints are in use of different types of cables. In order to ensure that enough space is available for splicing of cable for such joints and for proper bending of cable cores without undue strain, it is very essential to specify the minimum dimensions of the moulds for the joints. However, only the vital minimum dimensions have been standardized and the manufacturer is free to use other dimensions as well as the strap of moulds.

0.4 The standard does not cover the actual jointing methods or the specification of materials and components of such moulds and the cast resin system used in the jointing.

0.5 As far as possible, various sizes of cables are covered under single type of mould. Table 2 regarding selection of moulds is for guidance of users only.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2- 1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (revised).

1. SCOPE

1.1 This standard covers requirements and dimensions of moulds for cast resin based straight through joints for cables complying with IS : 692- 1973*, IS : 694 - 1977†, IS : 1554 (Part 1) - 1976 ‡, IS : 1596 - 1977§, IS : 4288- 1982||, IS : 7098 (Part 2) - 1985¶ and IS : 9968 (Part 1) - 1981** for voltages up to and including 1 100 volts.

*Specification for paper insulated lead-sheathed cables for electricity supply (second revision).

†Specification for PVC insulated cables for working voltages up to and including 1 100 volts (second revision).

‡Specification for PVC insulated (heavy duty) electric cables : Part 1 For working voltages up to and including 1 100 V (second revision).

§Specification for polyethylene insulated cables for working voltages up to and including 1 100 volts (second revision).

||Specification for PVC insulated (heavy duty) electric cables with solid aluminium conductors (for voltages up to and including 1 100 volts) (first revision).

¶Specification for crosslinked polyethylene insulated PVC sheathed cables: Part 2 For working voltages from 3.3 kV up to and including 33 kV (first revision).

**Specification for elastomer insulated cables: Part 1 For working voltages up to and including 1 100 volts.

2. MATERIALS

2.1 Plastic Mould — Plastic mould shall comprise of two halves formed from plastic sheet, such as polystyrene, polyethylene or any other suitable plastic material.

2.1.1 The mould shall be capable of sustaining the corresponding weight of the cast resin compound without deformation up to the maximum temperature developed during exothermic reaction.

2.1.2 Generally the mould shall be provided with suitable filling holes or pouring gates and risers, as shown in Fig. 1.

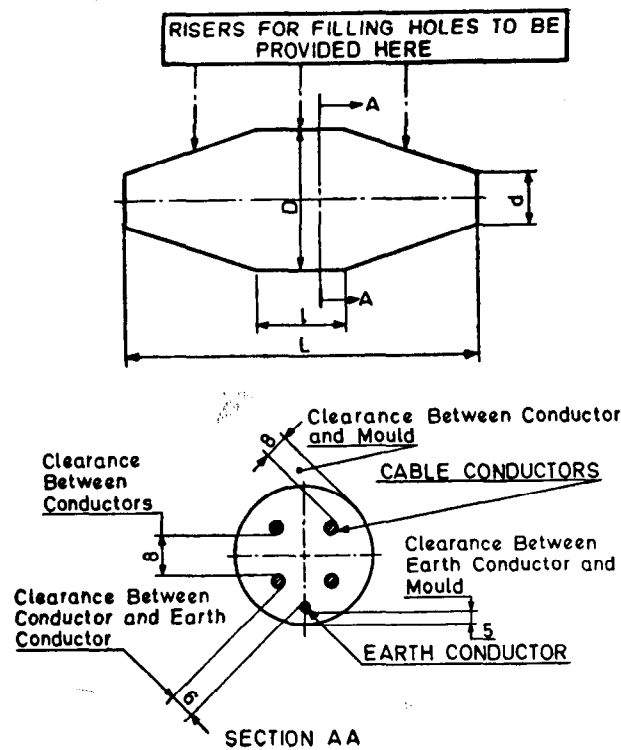
3. DIMENSIONS

3.1 The minimum dimensions of the moulds (see Fig. 1) shall be as given in Table 1.

4. SELECTION

4.1 The mould suitable for a particular application may be selected in accordance with Table 2.

NOTE — One type of mould is suitable for taking various types and sizes of cables.



All dimensions in millimetres.

FIG. 1 TYPICAL PLASTIC MOULD

TABLE 1 MOULD DIMENSIONS
(Clause 3.1)

All dimensions in millimetres.				
MOULD TYPE No.	D, Min	l, Min	t, Min	d, Min
(1)	(2)	(3)	(4)	(5)
S1	40	220	40	25
S2	45	240	50	30
S3	55	300	60	35
S4	60	380	80	40
S5	65	400	90	45
S6	70	450	110	48
S7	75	480	120	52
S8	85	600	140	58
S9	90	620	150	65
S10	95	660	170	70
S11	105	700	180	75
S12	110	750	200	80
S13	125	800	230	90

5. MARKING

5.1 Each half of the mould shall be marked by embossing or indenting the following:

- a) Manufacturer's name or trade-name, and
- b) Mould type number.

5.1.1 The mould may also be marked with the Standard Mark.

NOTE — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act 1986 and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

6. SAMPLING

6.1 A recommendatory sampling plan and criteria for acceptance are given in Appendix A.

TABLE 2 SELECTION OF MOULDS SUITABLE FOR CABLES FOR VOLTAGES UP TO AND INCLUDING 1 100 V
(Clauses 0.4 and 4.1)

MOULD TYPE No.	CABLE SIZE				NO. OF CORES FOR CONTROL CABLES
	1 Core	2 Core	3 Core	3½ and 4 Core	
	mm²	mm²	mm²	mm²	1.5, 2.5 mm²
(1)	(2)	(3)	(4)	(5)	(6)
S1	Up to 35	1.5-2.5-4	1.5-2.5-5	1.5-2.5	Up to 7
S2	50-70	6-10	6-10	4-6	8-16
S3	95-120	16-25-35	16-25	10-16	17-24
S4	150-185	50-70	35-50	25-35	25-30
S5	225-240	95	70	50	31-44
S6	300	120-150	95	70	Up to 6
S7	400-500	—	120-150	95	
S8	630	—	185	120-150	
S9	800	—	225	185	
S10	1 000	—	240	225	
S11	—	—	300	240	
S12	—	—	400	300	
S13	—	—	—	400	

APPENDIX A

(Clause 6.1)

RECOMMENDED SAMPLING PLAN

A-1. LOT

A-1.1 In any consignment, all the plastic moulds of the same type and manufactured by the same factory, during the same period and using the same material, shall constitute a lot.

A-1.2 Samples shall be taken from each lot and tested for conformity.

A-2. SCALE OF SAMPLING

A-2.1 The number of plastic moulds to be selected from each lot shall be in accordance with col 1 and 2 of Table 3. The plastic moulds shall be selected at random (see IS : 4905 - 1968*),

*Methods for random sampling.

**TABLE 3 SCALE OF SAMPLING AND PERMISSIBLE
NUMBER OF DEFECTIVES***(Clause A-2.1)*

LOT SIZE	SAMPLE SIZE	PERMISSIBLE NO. OF DEFECTIVES
(1)	(2)	(3)
Up to 100	5	0
101 to 500	8	0
501 to 1 000	13	1
1 001 and above	20	1

NOTE — Whenever the lot size is less than 5, all the plastic moulds taken shall be tested.

**A-3. NUMBER OF TESTS AND CRITERIA
FOR ACCEPTANCE**

A-3.1 All the plastic moulds selected, shall be checked for dimensions. Plastic mould failing to meet any one of the dimensions given in the specification shall be called a defective. If the number of defectives found is less than or equal to the permissible number of defectives (col 3 of Table 3), the lot shall be accepted; otherwise, the lot shall be rejected.

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